

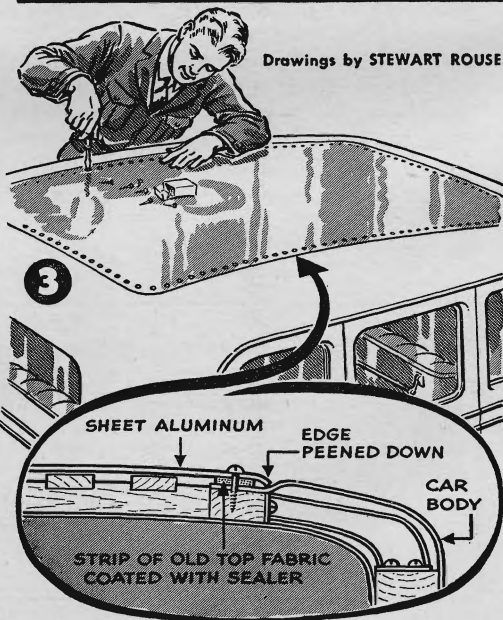
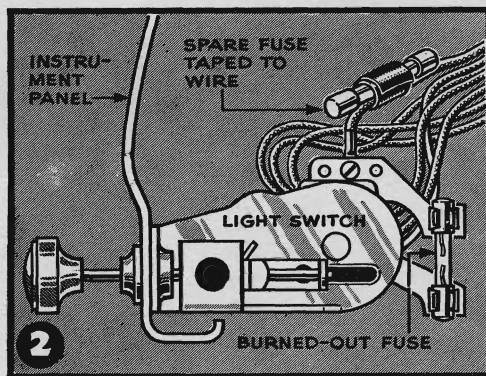
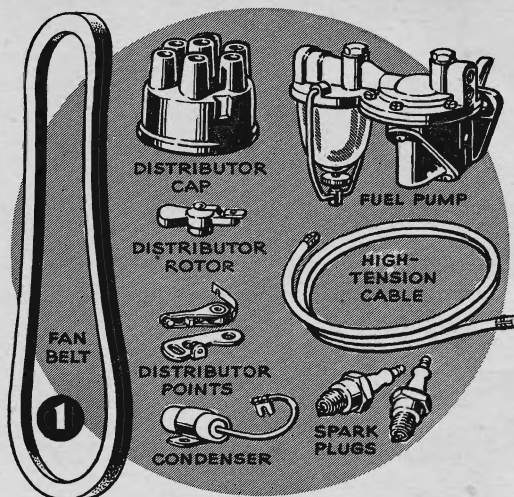
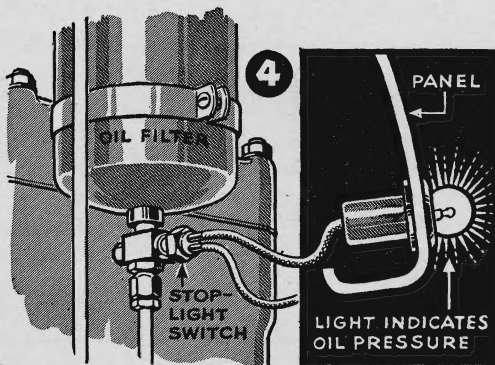


**1. Spare Parts Pay Off.** Some years ago I adopted the practice of always carrying this kit of spare parts, and at one time or another I have found a use for each item. Even if someone else makes the repairs, it is often a timesaver to have the necessary part readily available. Incidentally, the cable, long enough to reach from the coil to distributor, may sometimes be the means of starting the car when the original has become wet.—WALTON E. BRIGGS.

**2. Keep Extra Fuse Handy.** A fuse seldom blows on a car, but when it does you may be out of luck if you haven't another. A good idea is to tape a spare to a wire leading from the fuse or at some other adjacent point.—J. O. SACKERSON.

**3. Aluminum Used for Top.** A new car roof may be made from a 4' by 6' sheet of war-surplus aluminum. Using the old roof as a pattern, I cut the aluminum  $\frac{3}{4}$ " wider all around. Then I peened down the edge, cut strips from the old fabric top, coated them with sealer, placed them around the edge, and fastened the aluminum with brass screws spaced  $1\frac{1}{2}$ " apart. The roof is perfectly rainproof.—HOWARD CARE.

**4. Light Shows Oil Pressure.** Unable to buy a new oil-pressure gauge, I installed a hydraulic stop-light switch on an oil line, ran a lead from the hot ammeter terminal to one side of the switch, and a wire from the other side to a light on the dash. As long as there is sufficient oil pressure, the light glows.—JAMES SWAIT.



Drawings by STEWART ROUSE

# Hints From the



## 1. Watch Your Cap!

Doc Kennedy drove into the Model Garage a couple of weeks ago and yelled for Stan Hicks to fill up his tank. Next day Doc turned up again, and accused Stan of forgetting to put the cap on the tank. Perhaps Stan did. Anyway, it

was lost beyond doubt. W. Van Sandt, Long Branch, N. J., thinks grease monkeys like Stan would be less likely to overlook the cap if it were painted bright yellow for contrast. A good idea for the oil filler cap, too.

## 2. Vary the Voltage by Hand.

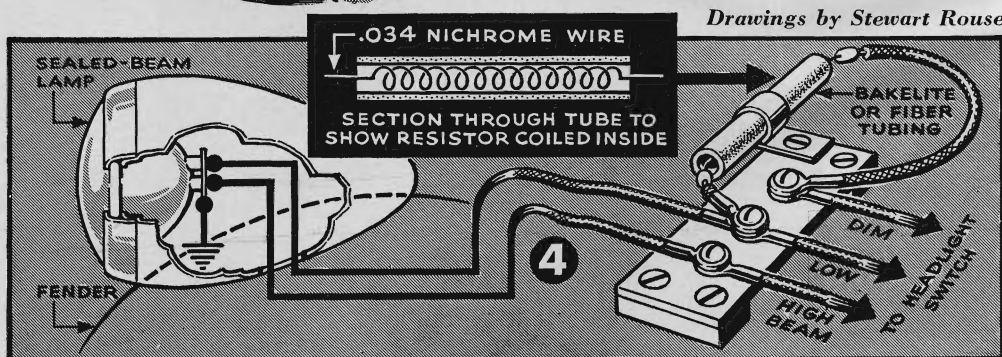
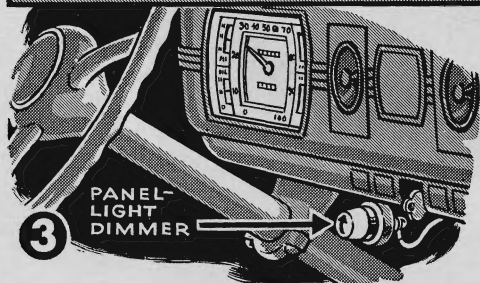
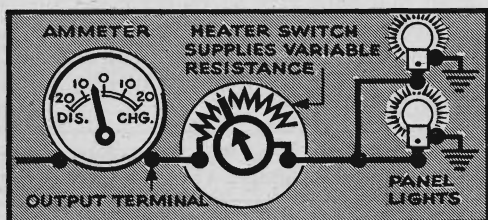
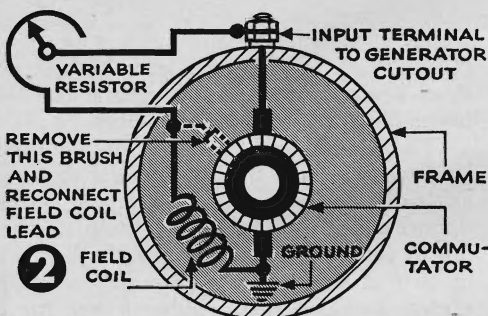
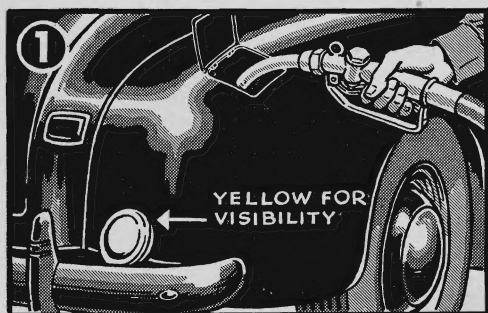
When extra electrical accessories are installed, a problem always arises if the car lacks an automatic voltage control. If the generator is set to carry the extra load, it's apt to overcharge the battery when the load is off. As a solution, K. C. Anderson, Ames, Iowa, installed a manually operated field resistor rated at 100 watts, 5 ohms. The resistor was placed on the dash, and generator output can now be varied while driving.

**3. Less Light on the Dash.** If your car doesn't have a dash-light dimmer, a variable resistance switch from an old car heater will let you adjust the brilliance of the instrument-panel lights. J. R. Sisley, Seattle, makes the suggestion.

## 4. Parking Lamp Improvised.

While installing several sealed-beam adapters, Henry J. Stauff, of Woodside, N. Y., found that the low beam could be dimmed for use as a parking lamp by placing a 1-ohm

*Drawings by Stewart Rouse*



# Model Garage

resistor across the dim and low beam connections from the light switch. He used .034" Nichrome ⑦ wire to make resistors.

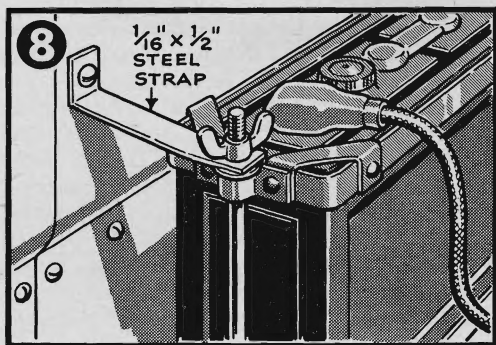
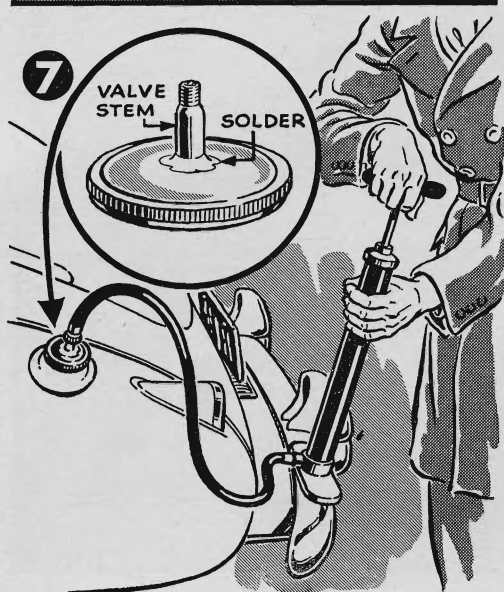
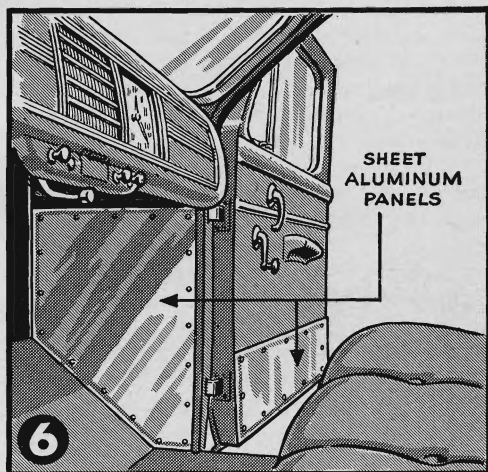
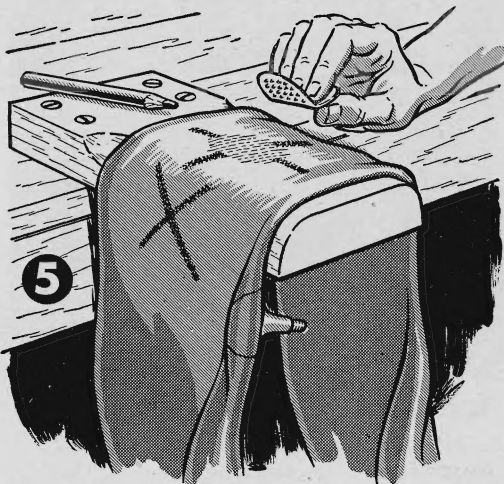
**5. X Marks the Puncture.** In a tire shop where he once worked, writes Fred C. Daley, of Oklahoma City, an indelible pencil was used to mark tube punctures, two lines being crossed at the pinhole. Then, after the tube was buffed for patching, the ends of the lines pointed toward the pinhole.

**6. Aluminum Dresses Up Car.** One reader has replaced scuffed and broken inside panels with sheet-aluminum ones, using sheet-metal screws. A little buffing gives a chromelike appearance.

**7. Emergency Fuel Pump.** If you believe in preparing for trouble before it occurs, here's an idea. Should your fuel pump go bad, a spare gas-tank cap with an inner-tube valve soldered to a hole drilled in its center will enable you to pump enough gas to the carburetor to reach a repair shop. Just a few strokes are enough for several miles, according to H. W. Mills, of Albion, Ill., who has found the idea practical.

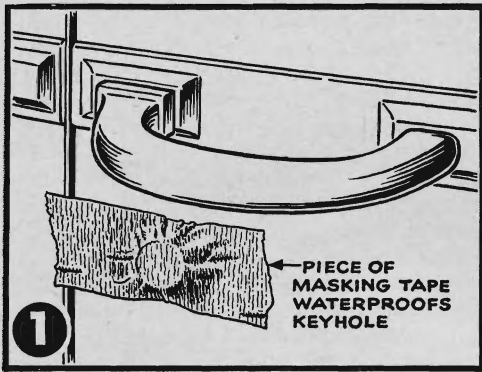
**8. Bracket Steadies Battery.** Vibration, the enemy of any car battery, can be lessened in under-hood installations by bolting a strap-iron bracket to the fender apron and the battery hold-down bolt. The idea comes from Glenn A. Wagner, of Delmar, N. Y.

*Gus Wilson*



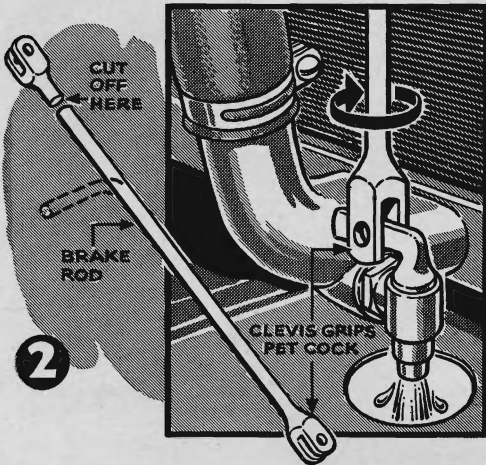


# Hints from the



## 1. Avoid Freeze-ups.

A roll of masking tape has been a valuable item this winter in the Model Garage. Before a car is washed, pieces of tape are placed over the door and trunk locks. Even though some of the cars were taken out at once into below-zero weather, there hasn't been one complaint of frozen locks.

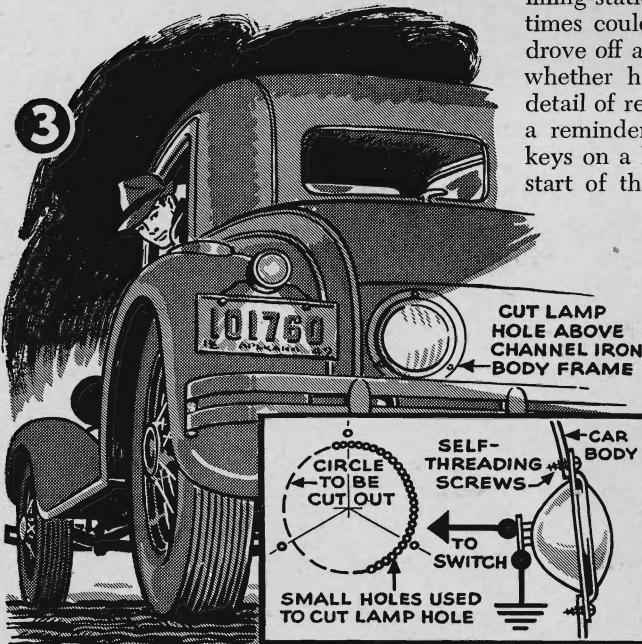


## 2. Tool Reaches Drain Cock.

An old brake rod may be turned into a handy tool for reaching drain cocks that are difficult to get at. Simply hacksaw off one end and bend to form a handle.

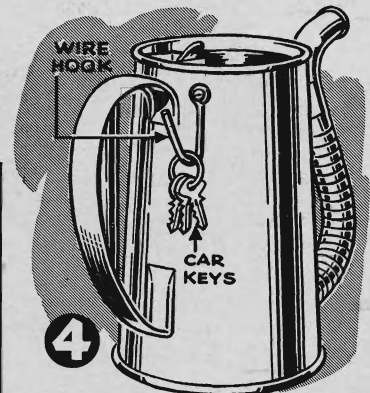
## 3. It's a Back-up Light Now.

Francis Hewens, of Boonton, N. J., reports he's using a sealed-beam headlight with one filament gone as a back-up light on a car he has. A hole slightly smaller than the rim was cut by drilling overlapping holes. One wire was run from the live filament to a switch on the dash, the other to ground.



4. You Can't Forget the Oil. One filling-station attendant found that he sometimes couldn't remember, when a customer drove off after an oil change and grease job, whether he had overlooked the important detail of refilling the drained crankcase. As a reminder, he now always hangs the car keys on a hook on the filled measure at the start of the job. Simple, but effective.

*Drawings by Stewart Rouse*



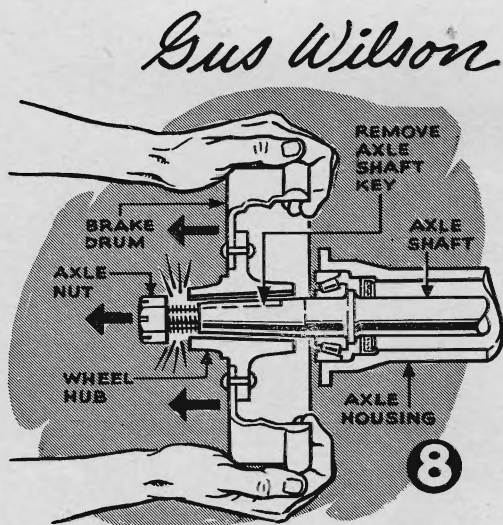
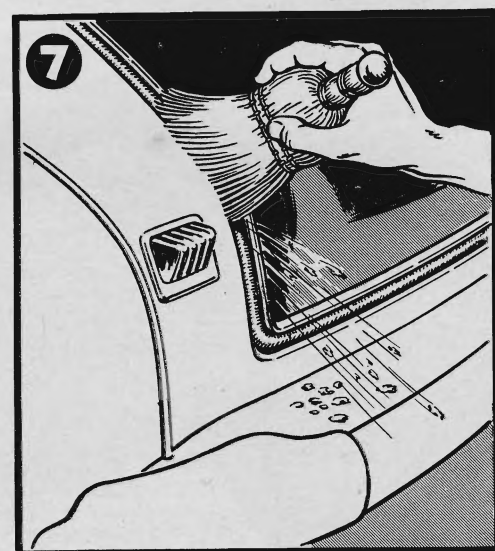
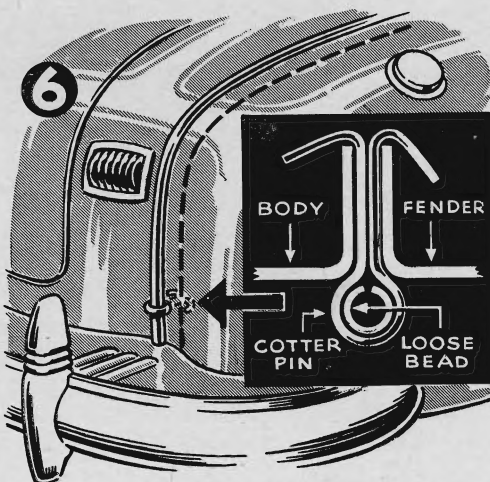
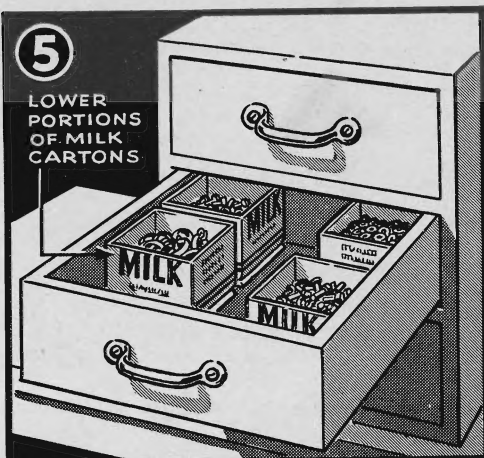
# Model Garage

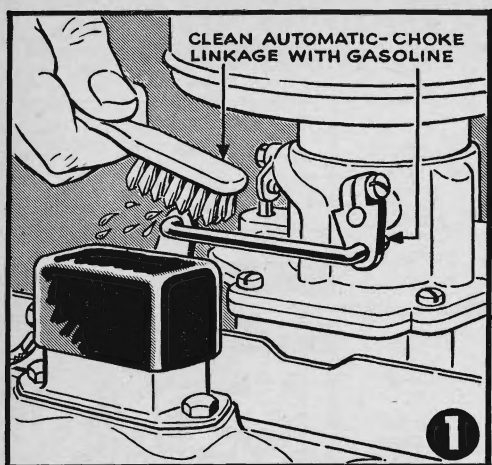
**5. Parts Kept in Order.** When J. C. Branstetter, of San Francisco, begins any extensive car repair, he always carries to the job several boxes made by cutting the tops from milk cartons. As he removes bolts and fittings, he keeps each group separate and drops a piece of paper in the container listing where the parts came from.

**6. Cotter Pin Holds Bead.** In some cars, a chrome bead finishes off the joint where the fenders meet the body. In time the fabric that ties it to the joint may rot, allowing the bead to spring out. One or more large cotter pins, slid over the bead, pressed into the joint, and then opened out, will keep it in place.

**7. Clean the Trunk Gutter.** It's a good idea to clean the gutter around your trunk compartment regularly. If dirt is allowed to accumulate, rain water may seep in even though the lid fits well.

**8. Brake Drum Pulls Axle.** Carl Vogel, of Chicago, points out that the brake drum may be used to pull the rear axle on Chrysler-made cars. After removing the wheel, drum, and shaft key, replace the drum and turn up the axle nut four or five turns. Then rap the drum against the nut several times and the axle will come out.



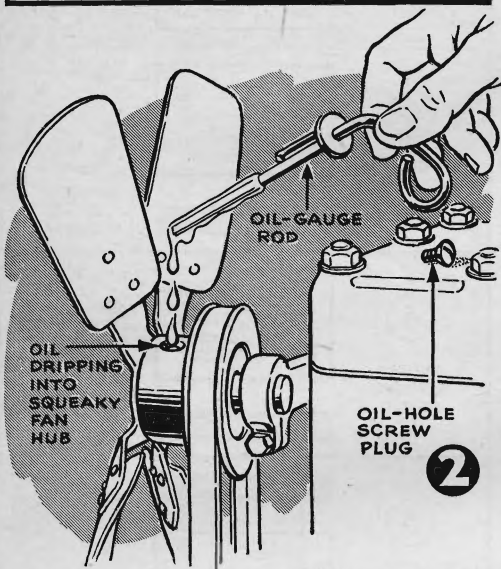


# Hints From the



## 1. Automatic chokes

sometimes get blamed unfairly. Here at the Model Garage we've learned to look first at the linkage between the carburetor and choke-control mechanism. Oil on the connecting lever will gum it up and make the choke sluggish. A toothbrush dipped in gasoline removes oil and dirt; very often that's all that is needed.



## 2. Fan Squeak Gives Warning.

Many fans start to squeak when lubrication is neglected, and a scored shaft is never far behind. Marion L. Rhodes, of Knightstown, Ind., heard the warning noise, but he was on the road, had no oil can, and was miles from a service station. To forestall trouble, he removed the screw plug and held the oil dip stick over the opening.

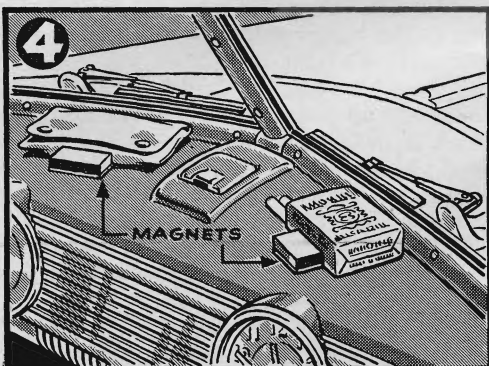
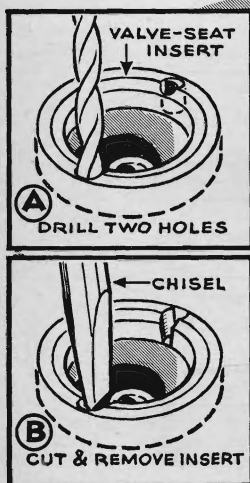
## 3. Freeze a New Insert Ring.

If valve inserts are being replaced and don't come out easily, remove with a drill and chisel, taking care not to damage the recess. Pack new rings in dry ice for at least 15 minutes to shrink them.

## 4. Magnets Peg Things to Dash.

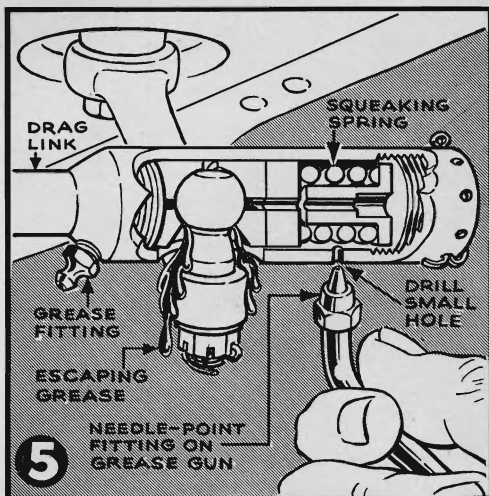
Cigarettes, sun glasses, and the like are always in reach for William G. Hykle, Montreal, who uses magnets to hold them up against the windshield frame on his car's sloping dashboard. Felt glued under each magnet keeps it from scratching.

*Drawings by Stewart Rouse*



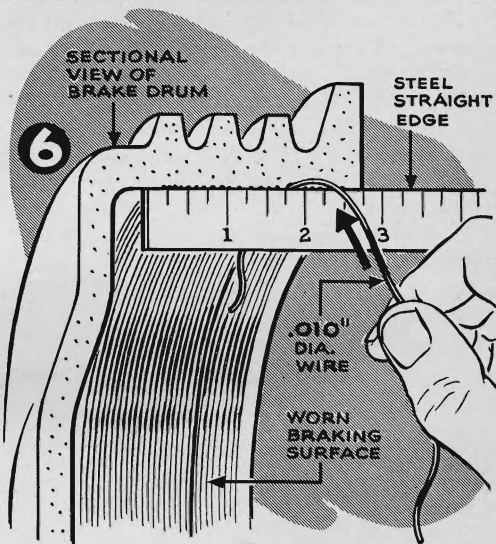
# Model Garage

**5. Grease Stops Squeak.** A persistent squeak when you turn the steering wheel may come from the spring-cushioned end of a drag link that hasn't been lubricated properly because the grease didn't reach the spring. The squeak can be stopped by drilling a tiny hole in the housing and forcing grease directly to the spring.



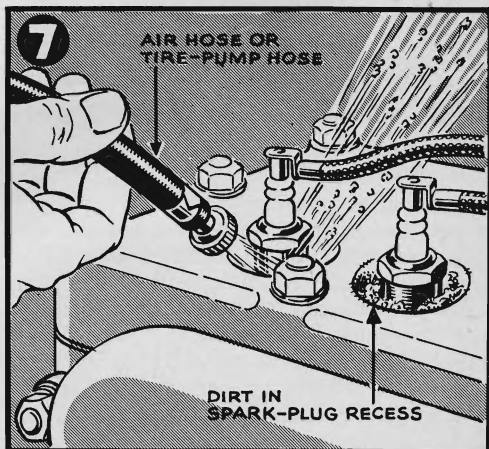
## 6. Gauging Brake-Drum Wear.

John Krill, of North Lima, Ohio, reports that one truck-fleet superintendent uses a straightedge and .010" wire to determine if brake-drum scoring is bad enough to demand machining. If the wire passes through any groove, the surface is considered in need of refinishing.

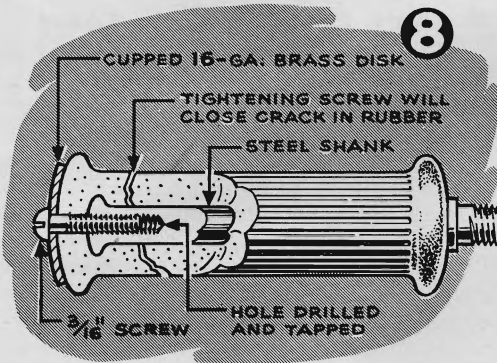


**7. Blow Out the Dirt.** One thing you'll never see in the Model Garage is a mechanic grab a wrench and remove a plug without preliminaries. Dirt should first be blown from the seat with an air hose—or failing that, a tire pump.

**8. Cycle Footrest Repaired.** If a crack occurs in the rubber casing of a motorcycle footrest bar, cut a disk out of 16-ga. brass, cup with a ballpeen hammer to conform to the casing, and drill the disk and shank for a 3/16" screw. Turning up the screw will close the crack. I. J. Stretten, Detroit, makes the suggestion.



*Gus Wilson*





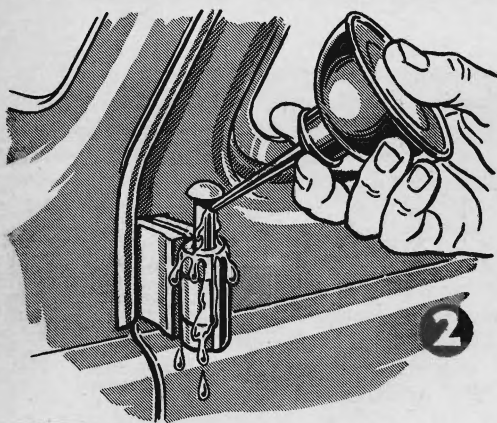


# Hints From the



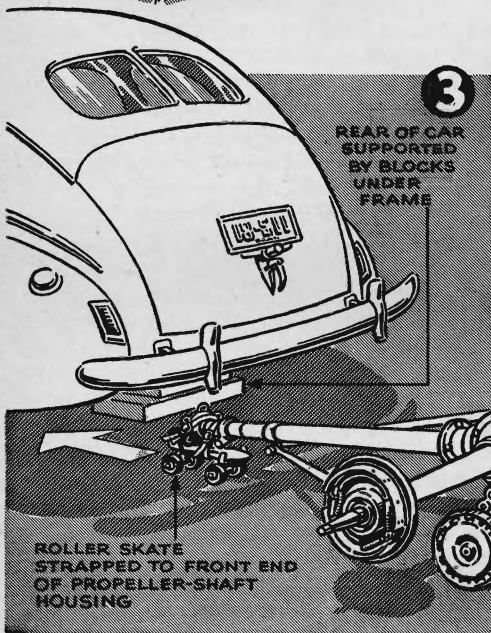
**1. A flashlight** is handy for repairs at night, but it may force you to work with one hand. A chap who stopped in the Model Garage had solved the problem neatly by keeping a heavy rubber band on the light.

With this, he can strap the light to his forearm, freeing both hands for work. He also keeps a supply of tape wrapped around the light—so he needn't hunt for it in the dark.



## 2. Drive Out Hinge-pin to Oil.

In the older cars with exposed hinges, Marion L. Rhodes, of Knightstown, Ind., finds it's best to drive the pin out halfway when oiling. Then apply a penetrating oil and allow to soak about five minutes. Unless the pin is loosened, even excessive oiling may not stop a persistent squeak.



## 3. Mower Used as Dolly.

While doing a rear-end job in his backyard, G. A. Miller, Jr., of Atherton, Calif., found an unexpected use for his lawn mower. Since there was little room to work under the car, he wanted to do as much as possible of the job in the open. This, he figured, could include attaching the propeller shaft to the differential if there were some way of returning the assembled unit to position. He solved the problem with the mower and a roller skate.

*Drawings by Stewart Rouse*

DIFFERENTIAL HOUSING ROPED TO MOWER

ROLLER SKATE STRAPPED TO FRONT END OF PROPELLER-SHAFT HOUSING



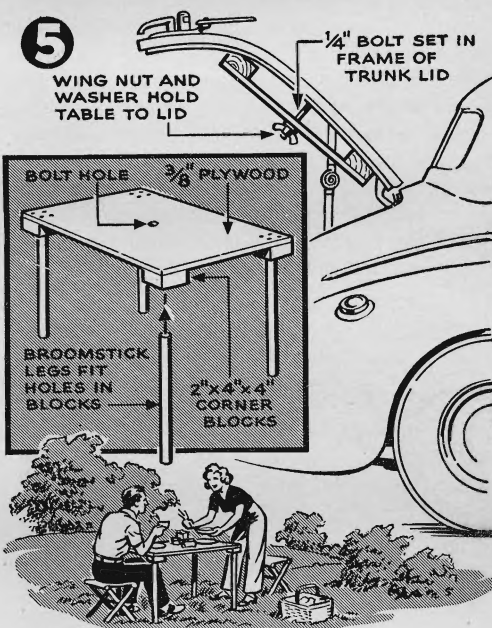


# Model Garage

**4. Paint the Hood Inside.** Heat from the sun and engine may cause the finish on the hood to deteriorate. As a precaution, W. Van Sandt, of Long Branch, N. J., recommends making use of the fact that light colors reflect heat. White enamel or silver paint applied inside the hood will reflect part of the engine heat and keep the hood cooler.



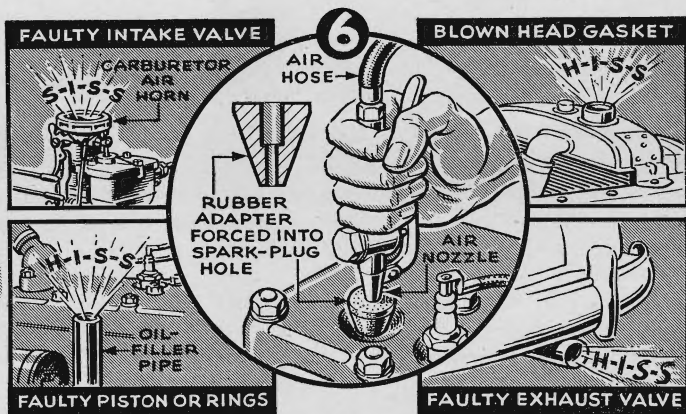
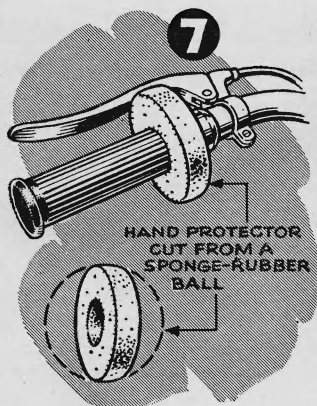
**5. Table Always With You.** Now that picnic time is here again, you may want to follow in the footsteps of H. C. Marhoff, of Chicago, and build this convenient table. When not in use, it takes up little space.



**6. Air Spots Compression Leak.** When an engine loses compression on one cylinder, Robert Brunt, of Lakewood, Ohio, diagnoses the trouble with an air hose. After removing the plug and setting the piston on firing position, he applies air to the spark-plug hole. If air hisses from the carburetor air intake, the trouble's in the intake valve; if from the exhaust pipe, in the exhaust valve; if from the oil filler, it's the piston or rings; if from the radiator, a blown gasket.

**7. Cushions Rider's Hand.** On long runs, the front-brake lever may chafe a motorcyclist's hand. A sponge-rubber disk slipped over the grip will prevent this.

*Gus Wilson*



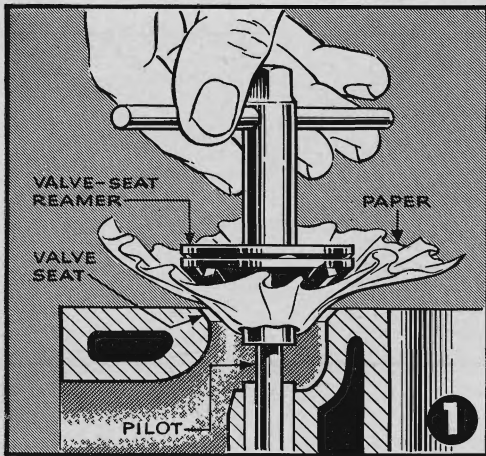
# Hints From the



## 1. Stopping Chatter.

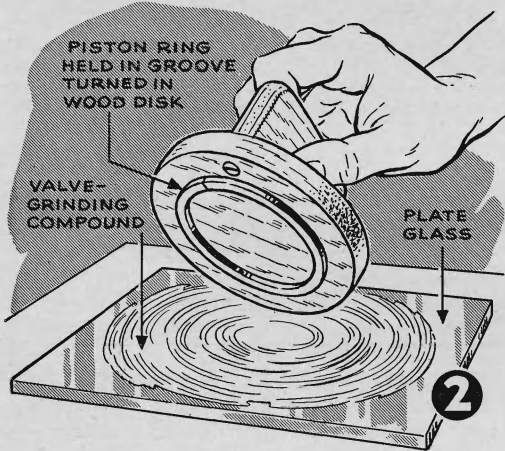
If you have to ream a valve seat by hand, here's a trick that has been useful in the Model Garage. Slip a piece of thin paper over the pilot and ream right through it with short, quick turns. This will prevent

the vertical ridges or chatter marks that sometimes ruin jobs of this kind.



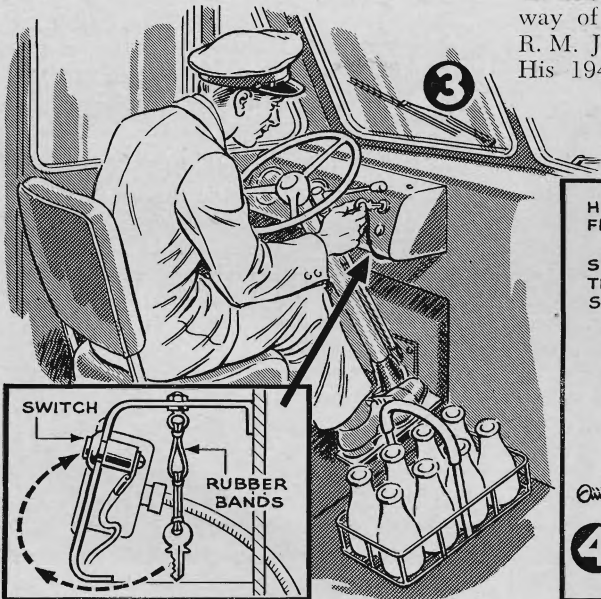
## 2. Ring Sized in Jig.

Piston rings that are oversize in width can be ground with this jig. Saw out the disk and turn a groove in which the compressed ring will partially fit.

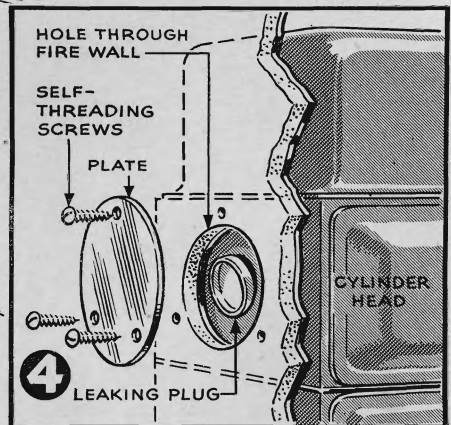


## 3. Ignition Key Hidden.

A milkman must often go out of sight of his truck while making deliveries. Rather than invite theft, one driver pocketed his ignition key each time that he left. But it was always a nuisance to fish around for the key when he returned. He has now solved the problem by fastening the key behind the instrument panel with a rubber band. This keeps it hidden, but always at hand.



*Drawings by Stewart Rouse*



# Model Garage

freeze-out plug at the back of the head. The repair job threatened to be long and costly, because the closeness of the fire wall seemingly meant that the head had to be removed. Instead, he cut a hole in the fire wall and had the job done in minutes. A plate closed the hole.

## 5. Getting Back Lost Plates.

Erich Dallmer, of Narrowsburg, N. Y., suggests painting your name and address on the back of each license plate. It's a fine idea, and costs less than a replacement.

## 6. Wrenches Kept Together.

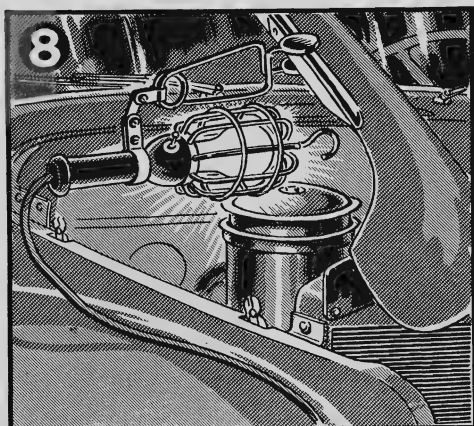
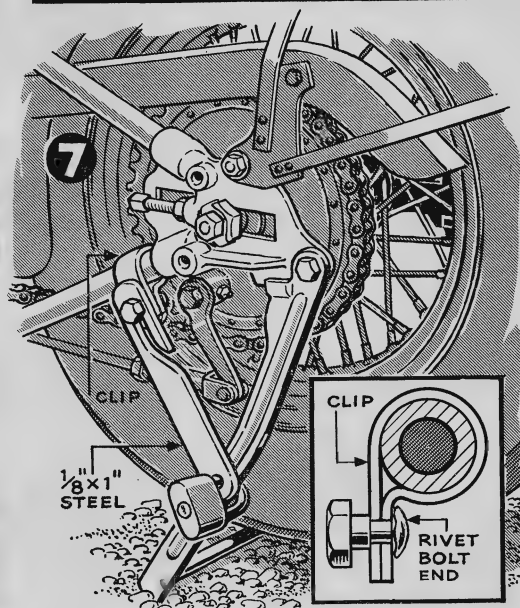
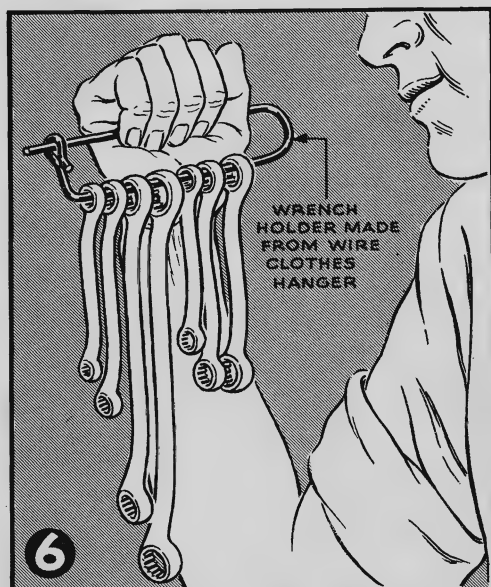
Tired of hunting through his tool case for a needed box wrench, Arthur E. Nordhoff, of Seattle, made a large "safety pin" from a clothes hanger. This keeps them all at hand.

## 7. Lock Protects Motorcycle.

This rig, writes Ivan J. Stretten, of Detroit, will both lock a motorcycle and prevent it from rolling off the stand. The slot in the arm lets you stow the arm in the tool box when it's not in use.

**8. Clamp Added to Light.** A spring clamp of the kind used on photographic lights lets you clip a trouble-shooting lamp in practically any desired position. H. Zave, of Chicago, makes the suggestion.

*Gus Wilson*



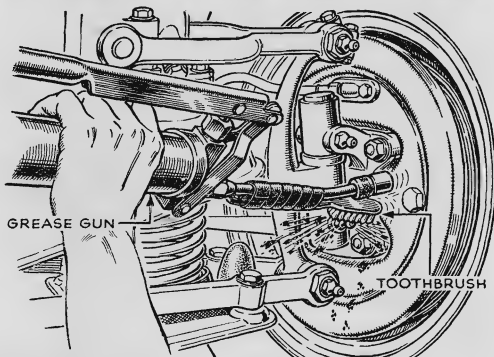




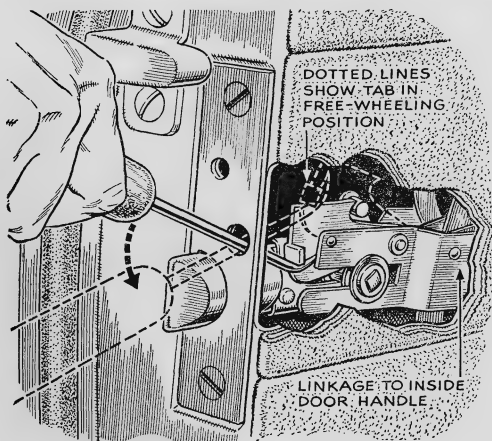
# Hints From the Model Garage



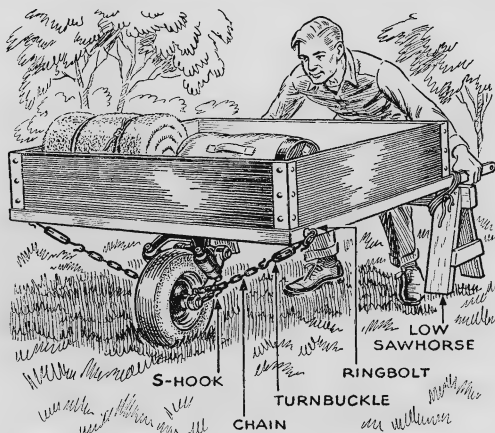
**Washing Job Speeded Up.** You can do a better job of washing a car if a sponge is attached to the nozzle of the hose. Cut a blind hole just large enough for insertion of the nozzle. Run heavy cord through with a needle and tie to the hose.



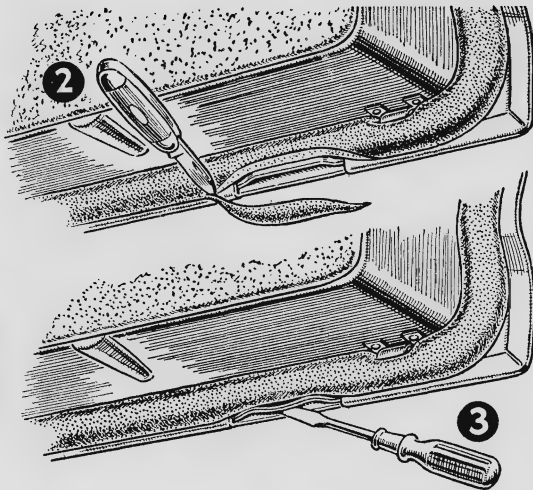
**Brush Off the Fitting.** An old toothbrush with stiff bristles is ideal for cleaning grease and embedded dirt from grease fittings before applying the gun. For greater working convenience, tape the handle of the brush to the nozzle of the gun.



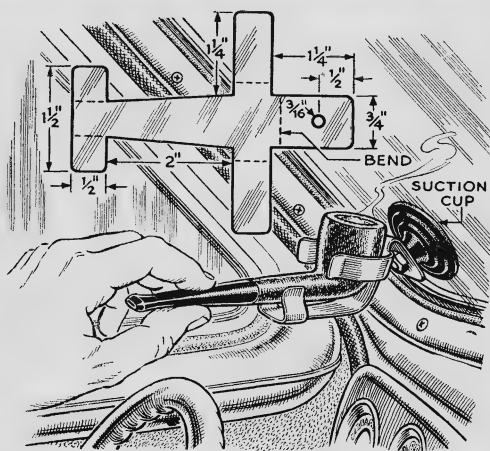
**Keep Children Safe.** Did you know there's a safety feature in the rear doors of General Motors four-door sedans? With a pointed tool (for instance, an ice pick with the point slightly bent), you can adjust the lock so the inside handle won't open the door. The handle is as easily returned to operation. GM introduced these locks in 1941. They've been used ever since in all models except '46, '47, and '48 Buicks.



**Trailer Used as Wheelbarrow.** It's difficult to handle a caster-type trailer when detached from the car. F. W. Sewell, of San Mateo, Calif., overcame this by rigging his like a wheelbarrow. A ringbolt was attached to the body at each side. When the trailer is to be moved, removable chains with S-hooks in each end keep the wheel rigid. Turnbuckles tighten the chains. A sawhorse supports the trailer.



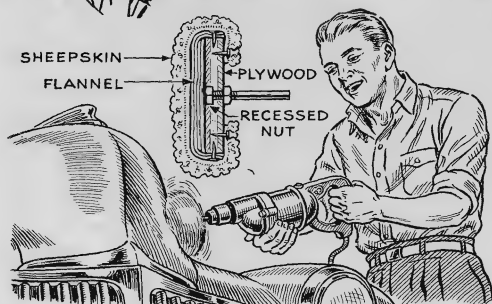
them out (1) with a piece of wire. In some cases, you may find that the weatherstrip laps over the slot, preventing proper drainage when the door is closed. The simplest remedy for this is to cut away a slice of weatherstrip (2). Occasionally, the flange around a slot also may be crimped shut. If so, pry it open (3) with a screwdriver.



**Clip Supports Your Pipe.** If you smoke a pipe while driving, you can give your jaws a rest occasionally with this clip. Copper or aluminum is easiest to work, but brass is more springy and makes a better clip. Using the pipe as a guide, bend the metal to shape. A suction cup with a screw molded into it can usually be found in an auto store. The clip was designed by Arthur Trauffer, of Council Bluffs, Iowa.

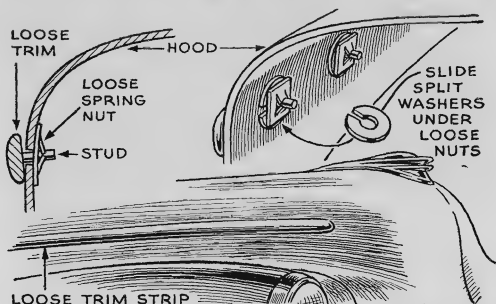


# Hints From the Model Garage



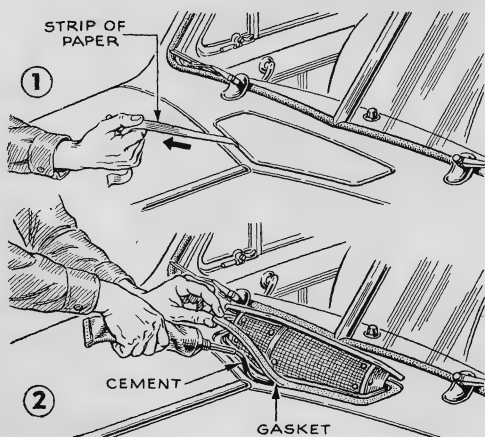
## Make Your Own Polishing Pad.

If you own an electric drill, it's a simple job to assemble a polishing attachment. Cut a 5" disk from  $\frac{1}{2}$ " plywood, drill and counter-bore it, and attach a shaft cut from a  $\frac{1}{4}$ " bolt. Pad the face with several layers of flannel. Finish it off with sheepskin cut from a polishing mitt, tacking along the back.



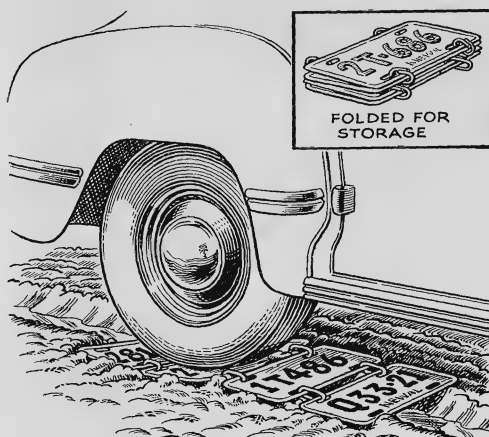
## Washers Tighten Trim.

Chromium trim often is attached with unthreaded studs and flat spring nuts. In time, wear on the studs may loosen the nuts and allow the trim to rattle and squeak. One way of tightening it is suggested above. Cut a section from a steel washer. Then force the washer behind the nut to take up the slack.



## Repairing a Cowl Ventilator.

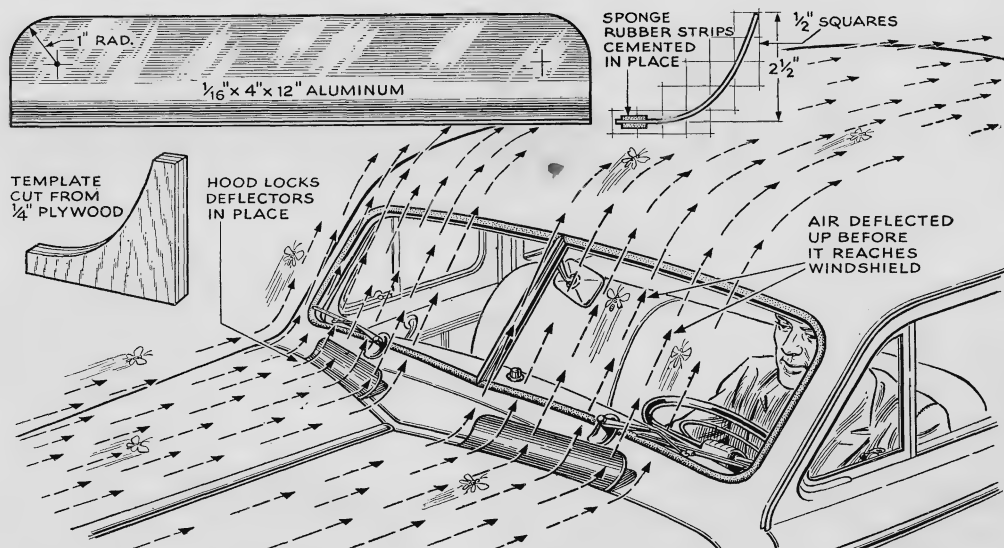
Water may leak through a cowl ventilator unless the lid makes firm and even contact with the gasket. If a strip of paper can be withdrawn when the lid is closed on it (1), increase the lid tension by shortening the adjusting link you'll find under the instrument panel. It's also sometimes helpful to remove the gasket, clean it and its channel, and carefully cement in place. (2).



## Plates Get You Out of Mud.

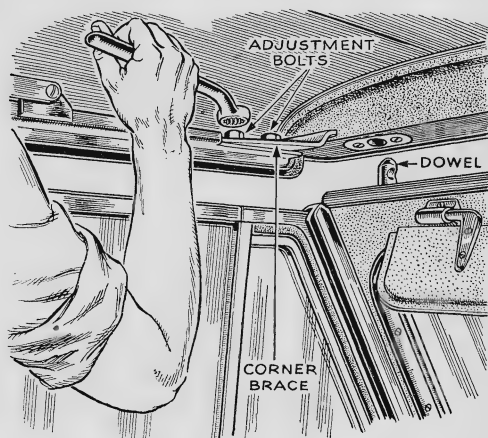
What do you do with your old license plates? Throw them away? Tack them on the garage wall? Herman Marcus, of Jamaica, N. Y., has a better idea. Link at least four of them together, using wire or perhaps chain-repairing links, fold them into a compact bundle, and store in the luggage compartment. Then if you ever get stuck in the mud, you've got a ready-made mud track.



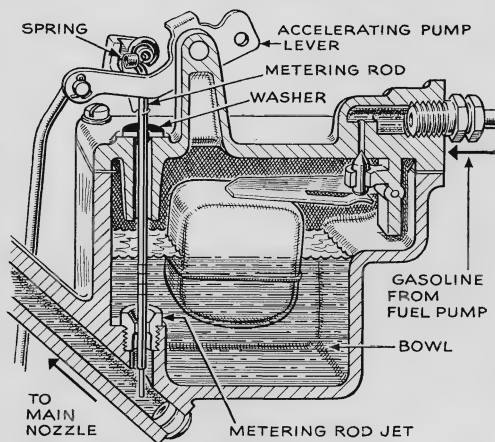


**Bugs Kept Off Windshield.** At this season, the spatter and smear of insects on a windshield makes seeing tough, especially at night. A. W. Schach, of Rockford, Ill., uses deflectors like these to overcome the problem. The sketch on  $\frac{1}{2}$ " squares

shows the curvature that will deflect air over the roofs of most modern cars. Cut a plywood template to this curvature as a guide when bending the aluminum. Either polish the aluminum to a high luster or paint it to match the car.



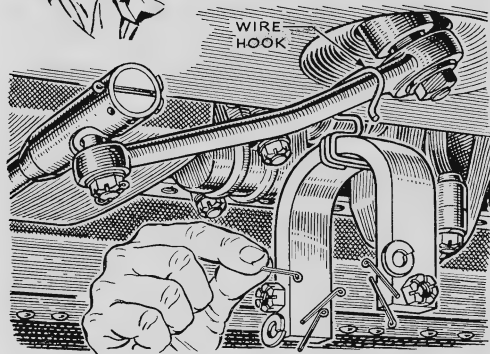
**Adjusting a Folding Top.** Convertible tops on General Motors cars may be adjusted either forward or back if the dowels don't hit their holes in the roof rail. First, unlatch the top and raise it slightly. Next, loosen the adjustment bolts. Then move the corner brace until the dowels and holes are properly aligned. In some cars, a different corner brace is used, but the adjustment is essentially the same.



**Carburetor Service Tip.** In a modern carburetor of the metering-rod type, the little spring at the top of the metering rod and the sealing washer are points that occasionally give trouble. If the spring is missing, the rod may vibrate sufficiently to unseat the washer. This admits full atmospheric pressure to the chamber. Rough engine performance or high fuel consumption may sometimes be traced to this.

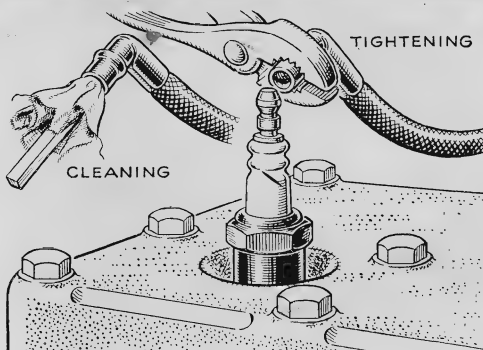


## Hints From the Model Garage

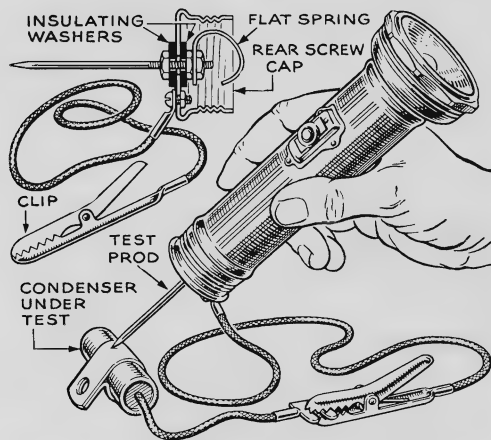


### Magnet Holds Small Parts.

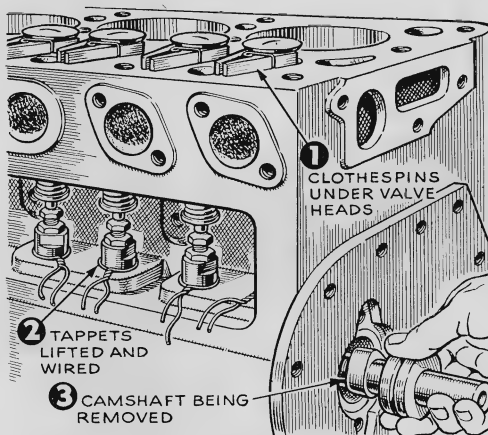
When you're working under a car, hook a permanent magnet nearby. As you remove nuts, cotter keys, pins, or small parts, just stick them to the magnet. P. R. Wilson, of Brooklin, Ont., says this is a help when you replace the parts. They're right there when you want them, and they don't pick up grit.



**Dirty Cap Causes Miss.** On high-compression engines, mysterious low-speed missing or bucking may sometimes be traced to poor electrical contacts in the high-tension leads. According to Frank Tobin, of Manhattan, N. Y., cleaning out and tightening the plug caps will often cure skips seemingly caused by defective plugs.

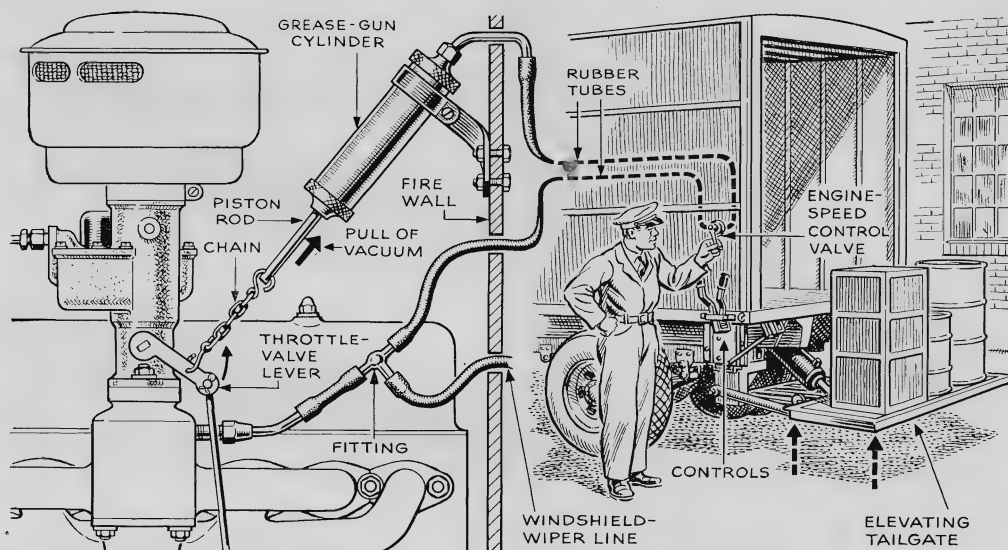


**Flashlight Tests Circuits.** A flashlight with a metal case makes a good continuity tester. Rufus P. Turner, of New Bedford, Mass., rigged this one. The test prod is a 3" brass rod threaded for 6-32 nuts and insulated from the cap by fiber washers. The other lead runs directly to the cap. In use, the bulb lights to indicate grounds and shorts. No light shows on an open circuit or an unshorted condenser.



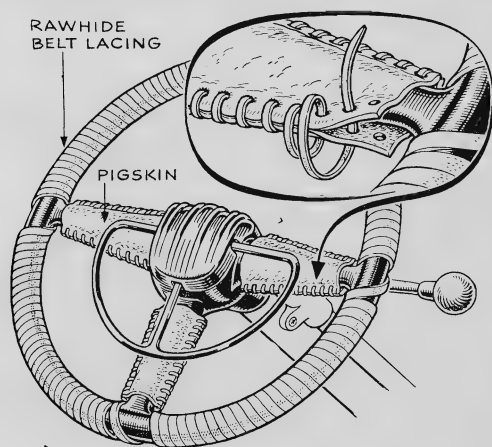
### Clothespins Wedge Valves.

Here's a time-saver in removing the camshaft of an L-head engine: Instead of removing the valves, springs, and tappets, just raise each valve spring with a valve-spring lifter and wedge a clothespin or piece of wood under the valve head. Then lift and wire each tappet up out of the way. The thrustplate then can be removed and the shaft pulled out. Kaiser-Frazer Corp. suggests this.

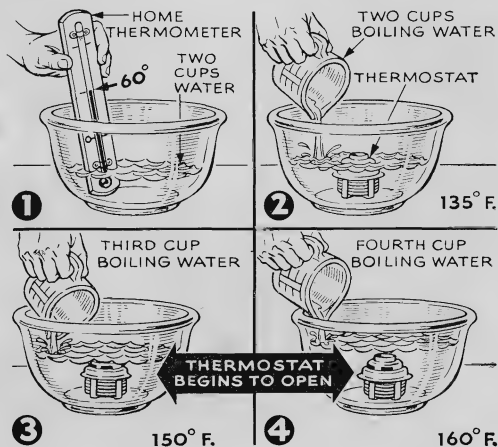


**Vacuum Runs Remote Throttle.** Powered by a take-off from the engine, an elevating tailgate takes a lot of labor out of truck loading. Mike Walt, of La Porte, Ind., says he had trouble with flexible-cable rigs varying engine speed from the back of

the truck, so he built this vacuum-operated remote control. The cylinder is an 8" grease gun and the lines are windshield-wiper hose. A two-way valve opens the throttle, or in second position bleeds air into the cylinder, letting the throttle-closing spring take over.



**Glove for Steering Wheel.** You can lend your car a custom-built touch by wrapping the rim of the steering wheel with rawhide thongs and lacing pigskin covers on the spokes. Leather not only has a good feel to begin with, but its texture generally improves with use. Cut the spoke covers as wide as the combined width and thickness of a spoke, and use a darker lacing on the edges.

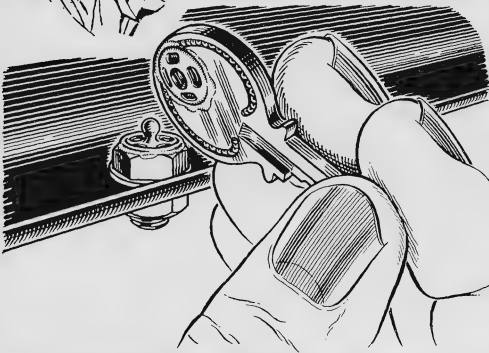


**Checking Thermostats.** If you don't have a high-temperature thermometer, you can test auto thermostats with an ordinary one, using a method suggested by Roy Howell, St. Albans, N. Y. Put 2 cups of water at 60 deg. in a bowl with the thermostat, and quickly add 3 cups of boiling water for about 150 deg., 4 cups for 160 deg., 5 for 168 deg., 6 for 174 deg., or 7 for 178 deg. Car manual gives opening point.

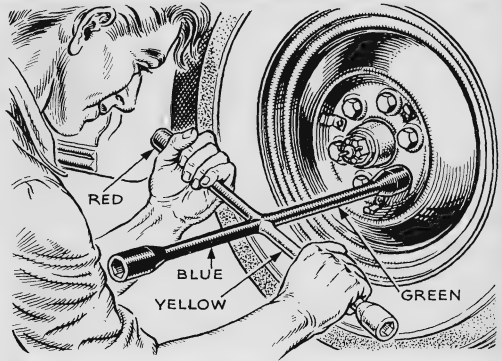




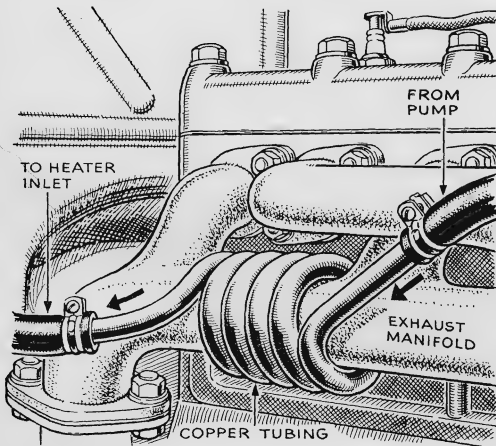
## Hints from the Model Garage



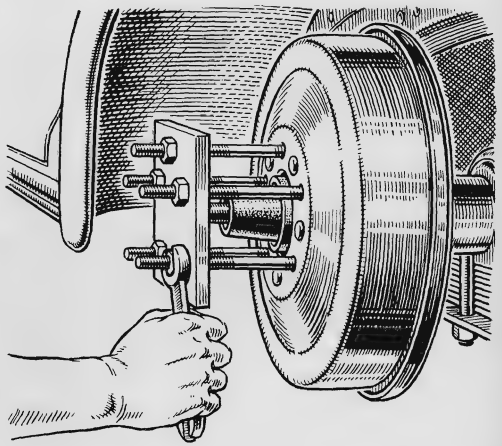
**Key Hidden on Dress Snap.** If you'd like to keep an extra gas-cap key hidden in your car, here's one way of doing it. Solder half of a dress snap to the key, the other part to the head of a small bolt. Then insert the bolt in any convenient hole—in the dash flange, glove compartment, or other place where the key will be out of sight.



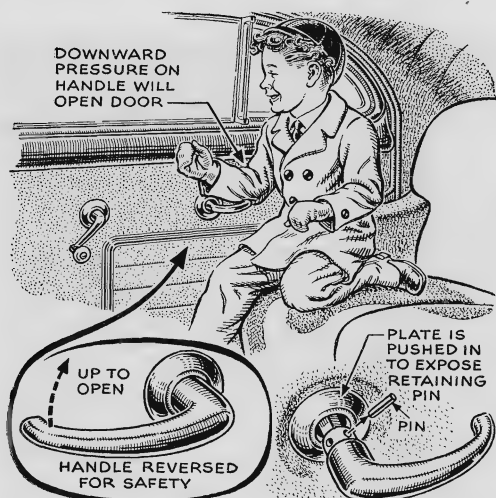
**Paint Your Tire Wrench.** Some good ideas are so simple that you wonder why a lot of people haven't tried them. Here's an example. Regis Gutwald writes from Minneapolis that he has painted each arm of his tire wrench a different color. When the wrench is laid down during a job, the color helps identify the socket in use.



**Heater Output Boosted.** John P. Berkya, of Lyndhurst, N. J., writes that the hot-water heater in his car failed to provide the warmth he likes. He solved the problem by making use of some of the heat that's wasted out of the exhaust pipe. Taking a length of copper tubing, he wrapped it several times around the exhaust manifold, connecting one end to the heater and the other to the pump.



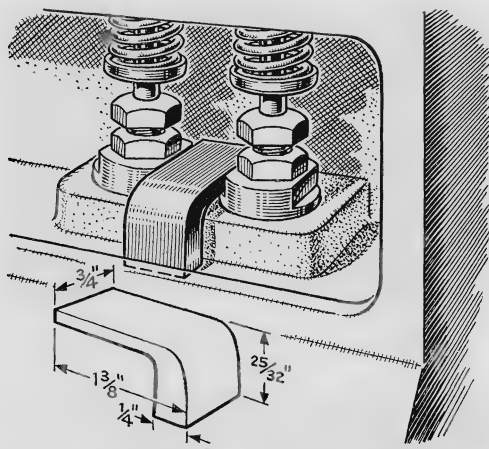
**Stubborn Wheels Come Off.** Here's a wheel puller devised by Raymond Holtz, of San Francisco. It consists of a square of  $\frac{1}{2}$ " steel plate and five studs. Five holes in the plate match those in the brake drum. One end of each stud is threaded to go into the brake-drum holes, the other to take a standard nut. In use, the nuts are tightened alternately. Pressure against the axle pulls the wheel.



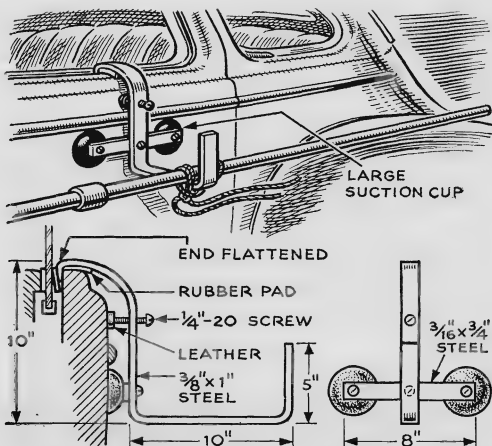
**Children Can't Fall Out.** In some cars, the handles are pressed down to open the doors. This is a hazard, since any rider, especially a child in the back seat, may lean on the handle and open the door by accident. S. W. Trosell, of Manhattan, N. Y., found a simple solution for this. He reversed the handles.



**Syringe Used as Siphon.** Neoprene tubing, a short piece of copper tubing, and a syringe may be quickly assembled to siphon gas from a car. File a half-round hole in the copper. To use, compress the syringe bulb, place your thumb on the hole, allow the bulb to expand, and uncover the hole. Remove the syringe when gas starts.

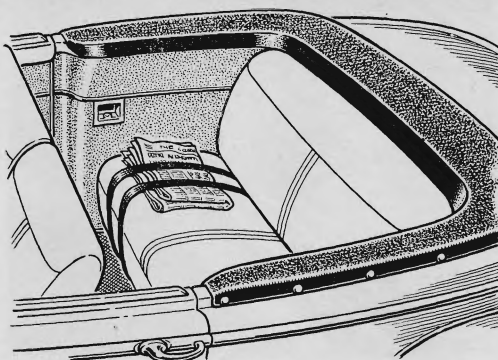


**Tool Simplifies Valve Work.** Here's just what the doctor ordered for adjusting Kaiser valves. Machined to an exact width of  $\frac{3}{4}$ ", the tool slips between the flats of adjoining cam followers. This jams them, leaving your hands free to make the adjustment. The longer arm is filed to  $\frac{1}{8}$ " thickness. A. G. Patrick, of Hot Springs, Ark., made the tool when he found there wasn't space for a conventional wrench.



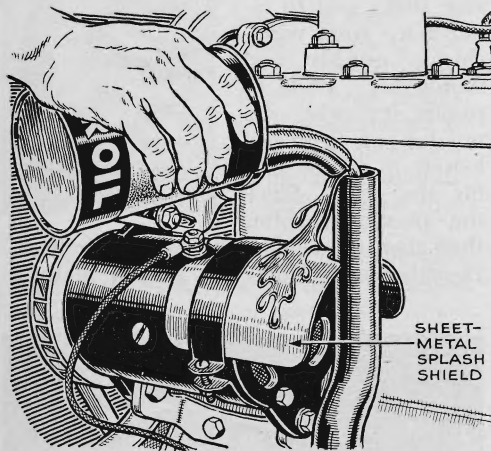
**Brackets Carry Pipe.** If you sometimes must carry long lengths of pipe, lumber, or other materials on a car, a pair of removable brackets like this will make the job easier and prevent the finish from being scratched. A  $\frac{1}{4}$ "-20 screw clamps the flattened top end of the bracket to the car. Use at least  $\frac{3}{16}$ " steel, or heavier if possible. When the brackets are complete, give them a coat or two of paint.

# **Hints from the Model Garage**

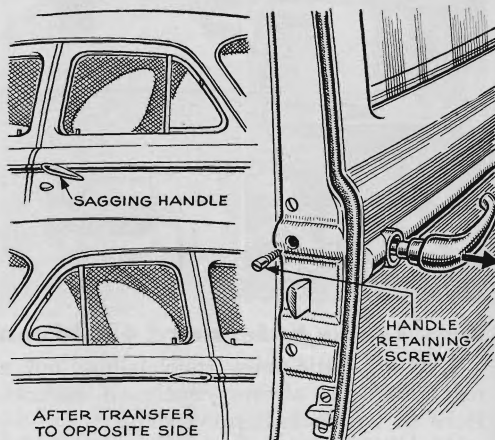


**Prevent Overinflation.** The new low-pressure tires are sometimes overinflated through carelessness. As a reminder to service-station attendants, paint the correct pressure on the rim beside each valve stem with white enamel, or apply waterproof adhesive tape with the figure inked on. You can also buy markers for your caps. See page 169.

**Straps Hold Back-Seat Items.** If you own a convertible, here's a hint that may be useful. David A. Wallace, of Ada, Mich., suggests that one or more elastic straps placed around the rear cushion will keep papers or loose clothing from blowing out while the top is down. The straps won't interfere with passengers.



**Shield Protects Generator.** While filling up with oil, you may have noticed that the attendant sometimes allows a little to slop over the filler tube. Ray Wolfram, of Chicago, writes that he finally traced a mysterious generator trouble to such carelessness. Spilled over the generator, the oil had fouled the brushes. To prevent this from happening again, he installed a metal shield as shown.



**Reverse Sagging Handles.** On some cars the door handles eventually wear enough so that they sag below the chrome strip they were designed to parallel. Don E. Braman, of Little Rock, Ark., found a simple solution for this on his 1941 Chevrolet. Removing the handles, he transferred each to the door on the opposite side. There, since the worn part was up, the handle didn't sag. Three minutes did the job.



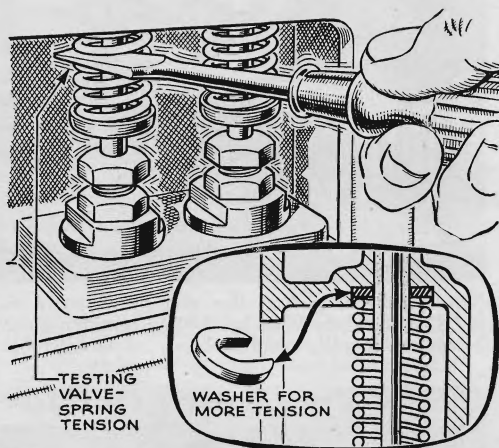


**Fan Belt Gives Tow.** Forrest F. Starr, of Columbus, Ohio, makes a suggestion that may help you out of a tough spot.

"My neighbor's car was stuck in soft ground," he writes. "Having no suitable rope or chain, I used an old fan belt. It

worked surprisingly well, for the stretch in the belt got the car started to rocking without any sharp jerks. I've carried the belt ever since for just such emergencies."

As seen above, the belt is especially good when you can't push the stalled car.



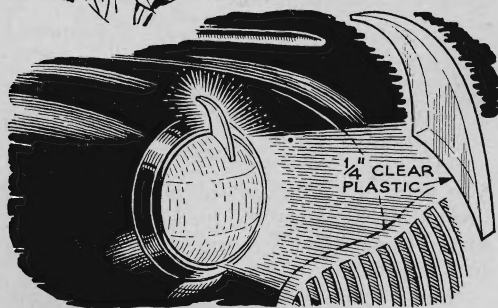
**Washer Quiets Knock.** A knock may occur at idling speed if the camshaft gear is worn and one or more valve springs do not have sufficient tension. W. M. Dierks, of Chicago, says such knocking usually can be quieted in the following way. With the engine idling, insert a screwdriver into each spring. When the knock stops, you've found the faulty one. Force a horse-shoe washer 1/16" thick under the seat.



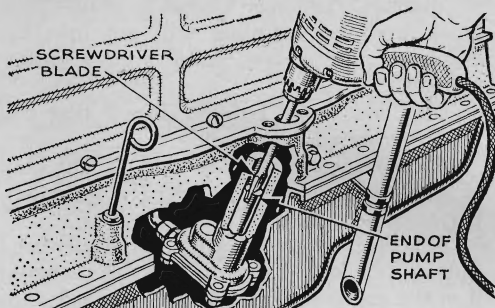
**Plastic Keeps Door Clean.** Most everyone these days installs seat covers in a new car, but few give any thought to the door areas, where hands frequently soil the covering material. Frank J. Montemuro, of Philadelphia, is one person who does. Cutting a sheet of clear plastic to fit, he installed it as a shield around the door and window handles on each door. The plastic is easily wiped clean.



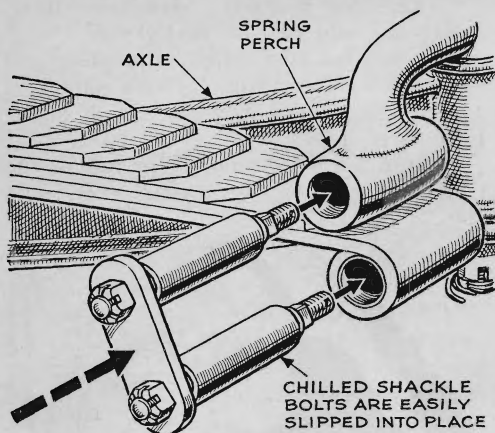
# Hints From the Model Garage



**Plastic Shows Lights Are On.** If a headlight burns out, you'll know it without leaving the car. Edge-lighted along the lower surface, a horn-shaped indicator cut from plastic carries the illumination up where you can see it. A good cement job will hold it on, or a metal strip screwed to rear corner can be clamped by lamp rim.

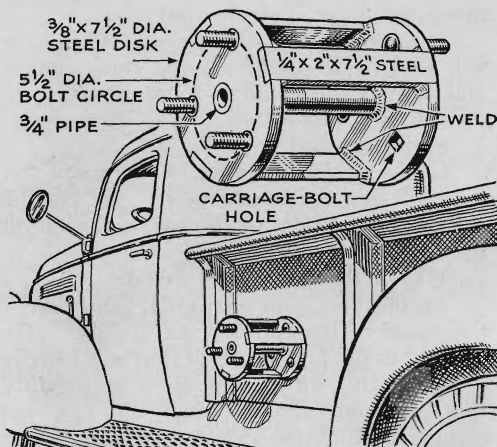


**Drill Primes Pump.** When an engine is started after an overhaul, oil pressure must come up fast to protect dry, tight wearing surfaces. Reader George Pedley, working on a Chevrolet engine, used an electric drill to run the pump until the oil gauge showed pressure. Then he finished assembly, timed the engine, and started it.



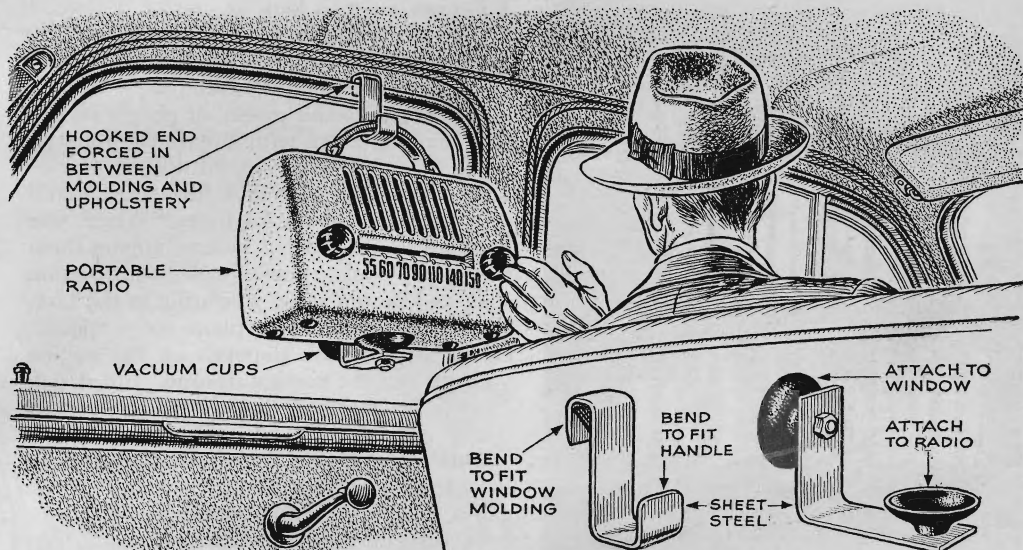
## Cold Shackle Goes in Easily.

Since cold contracts metal and hardens rubber, Robert Douglas, of Rochester, N. Y., suggests that you take advantage of this when installing Ford or similar spring shackles. Put the new ones into the freezing compartment of a refrigerator and leave for about half an hour. Then you'll find they have contracted enough to go into place with much less difficulty.



## Carrier for Truck Tire.

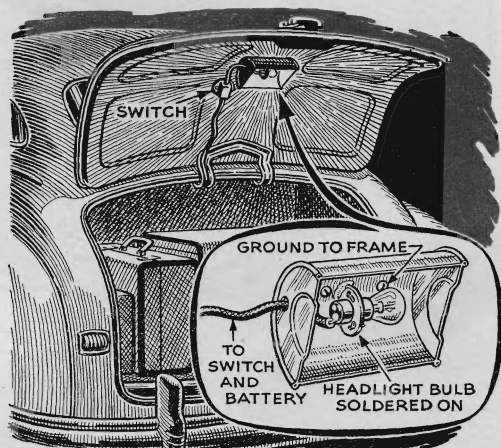
When Edward S. Barrows, of Philadelphia, bought a pickup, the spare-tire carrier was missing. He remedied this by building the one illustrated from scrap materials. He writes that he finds this more convenient than the usual carrier under the box and that it doesn't interfere with any use of the truck. Should you want to carry an extra spare, a carrier like this might be the answer.



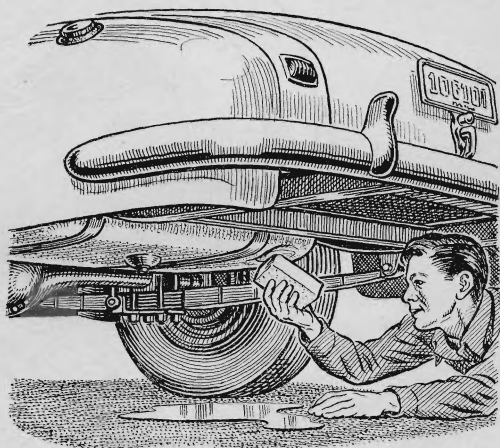
**Portable Used in Car.** Installed as shown, a good portable can double as a car radio. You'll notice that it can be quickly dismounted to serve in its original function.

With some sets two lower brackets may be necessary to provide firm support. Be

sure to moisten the suction cups before applying to the glass. Most portables will not equal the performance of a good car radio, of course, but an installation like this has been found perfectly satisfactory in areas where stations are not too distant.



**Light Works Automatically.** If your luggage compartment hasn't a light, here's one that you can install at little expense. Mount a mercury switch under the lid to close the circuit and turn on the light automatically when you lift the lid. Drop the lid, and it goes off. Tap a taillight wire for the hot lead, and provide a good ground contact from the reflector to the car. A tin can cut in half makes a good reflector.



**Soap Stops Gas Leak.** If carefully applied, a bar of soap will make an emergency roadside repair for a small leak in your gas tank. After locating the hole, wipe off surrounding dirt and grease and rub the soap firmly over the spot several times. Since gasoline will not readily dissolve soap, this temporary fix will usually last until you can get to a garage and have the tank repaired or replaced.